



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

20-8769  
20-8770  
20-8771

D3488-4

Job Sheet 207839



Part No: D3488-4

Job Qty: 12 pcs

Part Name: Blade Fitting, RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/5/20

Job Tracking No:

Created By: Marie Lajeunesse

Due Date: 3/31/20

Description:

Note: DSK101 REV.D / D3488 REV.C IPP REV:A 18.11.09 NEW ISSUE DD VERF:JFS

Ship Via:

## Bill of Materials

## Job Routing

| Op No | Operation  | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off   |
|-------|------------|--------|------------|----------|-----------|---------|-----------------------|-----------|------------|
|       |            |        |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |            |
| 100   | Doosan - 1 | 12 pcs |            |          | 1.00      | 10.55   | Doosan - 1            |           | 18 20/3/13 |
| 110   | QC 2       | 12 pcs |            |          | 0.00      | 0.00    | QC 2 - 1              |           |            |
|       |            |        |            |          |           |         | QC 2 - 12             |           |            |
|       |            |        |            |          |           |         | QC 2 - 14             |           |            |
|       |            |        |            |          |           |         | QC 2 - 17             |           |            |
|       |            |        |            |          |           |         | QC 2 - 19             |           |            |
|       |            |        |            |          |           |         | QC 2 - 2              |           |            |
|       |            |        |            |          |           |         | QC 2 - 20             |           |            |
|       |            |        |            |          |           |         | QC 2 - 22             |           |            |
|       |            |        |            |          |           |         | QC 2 - 23             |           | 18 20/3/13 |
|       |            |        |            |          |           |         | QC 2 - 25             |           |            |
|       |            |        |            |          |           |         | QC 2 - 32             |           |            |
|       |            |        |            |          |           |         | QC 2 - 33             |           |            |
|       |            |        |            |          |           |         | QC 2 - 35             |           |            |
|       |            |        |            |          |           |         | QC 2 - 39             |           |            |
|       |            |        |            |          |           |         | QC 2 - 4              |           |            |
|       |            |        |            |          |           |         | QC 2 - 40             |           |            |
|       |            |        |            |          |           |         | QC 2 - 44             |           |            |
|       |            |        |            |          |           |         | QC 2 - 45             |           |            |
|       |            |        |            |          |           |         | QC 2 - 48             |           |            |
|       |            |        |            |          |           |         | QC 2 - 49             |           |            |
|       |            |        |            |          |           |         | QC 2 - 50             |           |            |
|       |            |        |            |          |           |         | QC 2 - 51             |           |            |
|       |            |        |            |          |           |         | QC 2 - 52             |           |            |
|       |            |        |            |          |           |         | QC 2 - 57             |           |            |
|       |            |        |            |          |           |         | QC 2 - 62             |           |            |
|       |            |        |            |          |           |         | QC 2 - 63             |           |            |
|       |            |        |            |          |           |         | QC 2 - 8              |           |            |
|       |            |        |            |          |           |         | QC 2 - 66             |           |            |
|       |            |        |            |          |           |         | QC 2 - 64             |           |            |



Container No: S263324



Part: D3488 - 4

Job No: 207839

Serial No/Batch: S263324

Revision: D/C

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.  
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CANADA  
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Email: sales@dartaero.com  
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Date: 03/13/20

|                       |           |      |      |                |             |
|-----------------------|-----------|------|------|----------------|-------------|
|                       |           |      |      | QC 2 - 65      |             |
|                       |           |      |      | QC 2 - 5       |             |
|                       |           |      |      | QC 2 - 71      |             |
|                       |           |      |      | QC 2 - 73      |             |
|                       |           |      |      | QC 2 - 69      |             |
|                       |           |      |      | QC 2 - 76      |             |
|                       |           |      |      | QC 2 - 86      |             |
|                       |           |      |      |                |             |
| 120 HAAS 4 Axis - B4B | 12<br>pcs | 1.00 | 8.23 | HAAS - 1 - B4B | JAS 20/3/23 |
|                       |           |      |      | HAAS - 2 - B4B |             |
|                       |           |      |      | HAAS - 3 - B4B |             |
|                       |           |      |      | HAAS - 4 - B4B |             |
| 130 QC 2              | 12<br>pcs | 0.00 | 0.00 | QC 2 - 1       |             |
|                       |           |      |      | QC 2 - 12      |             |
|                       |           |      |      | QC 2 - 14      |             |
|                       |           |      |      | QC 2 - 17      |             |
|                       |           |      |      | QC 2 - 19      |             |
|                       |           |      |      | QC 2 - 2       |             |
|                       |           |      |      | QC 2 - 20      |             |
|                       |           |      |      | QC 2 - 22      |             |
|                       |           |      |      | QC 2 - 23      |             |
|                       |           |      |      | QC 2 - 25      |             |
|                       |           |      |      | QC 2 - 32      |             |
|                       |           |      |      | QC 2 - 33      |             |
|                       |           |      |      | QC 2 - 35      |             |
|                       |           |      |      | QC 2 - 39      |             |
|                       |           |      |      | QC 2 - 4       |             |
|                       |           |      |      | QC 2 - 40      |             |
|                       |           |      |      | QC 2 - 44      |             |
|                       |           |      |      | QC 2 - 45      |             |
|                       |           |      |      | QC 2 - 48      |             |
|                       |           |      |      | QC 2 - 49      |             |
|                       |           |      |      | QC 2 - 50      |             |
|                       |           |      |      | QC 2 - 51      |             |
|                       |           |      |      | QC 2 - 52      |             |
|                       |           |      |      | QC 2 - 57      |             |
|                       |           |      |      | QC 2 - 62      |             |
|                       |           |      |      | QC 2 - 63      |             |
|                       |           |      |      | QC 2 - 8       |             |
|                       |           |      |      | QC 2 - 66      |             |
|                       |           |      |      | QC 2 - 64      |             |
|                       |           |      |      | QC 2 - 65      | C/R 20/3/23 |
|                       |           |      |      | QC 2 - 5       |             |
|                       |           |      |      | QC 2 - 71      |             |
|                       |           |      |      | QC 2 - 73      |             |
|                       |           |      |      | QC 2 - 69      |             |
|                       |           |      |      | QC 2 - 76      |             |
|                       |           |      |      | QC 2 - 86      |             |
| 140 QC 8              | 12<br>pcs | 0.00 | 0.00 | QC 8 - 12      |             |
|                       |           |      |      | QC 8 - 14      |             |
|                       |           |      |      | QC 8 - 17      |             |
|                       |           |      |      | QC 8 - 20      |             |
|                       |           |      |      | QC 8 - 25      |             |
|                       |           |      |      | QC 8 - 3       |             |
|                       |           |      |      | QC 8 - 32      |             |
|                       |           |      |      | QC 8 - 33      |             |
|                       |           |      |      | QC 8 - 35      |             |
|                       |           |      |      | QC 8 - 39      |             |
|                       |           |      |      | QC 8 - 4       |             |
|                       |           |      |      | QC 8 - 44      |             |

|                                   |        |      |      |                           |              |
|-----------------------------------|--------|------|------|---------------------------|--------------|
|                                   |        |      |      | QC 8 - 45                 |              |
|                                   |        |      |      | QC 8 - 49                 |              |
|                                   |        |      |      | QC 8 - 58                 |              |
|                                   |        |      |      | QC 8 - 8                  | B.a 20-09-15 |
|                                   |        |      |      | QC 8 - 9                  |              |
|                                   |        |      |      | QC 8 - 68                 |              |
|                                   |        |      |      | QC 8 - 67                 |              |
|                                   |        |      |      | QC 8 - 1 (A)              |              |
|                                   |        |      |      | QC 8 - 47                 |              |
|                                   |        |      |      | QC 8 - 40                 |              |
|                                   |        |      |      | QC 8 - 52                 |              |
|                                   |        |      |      | QC 8 - 23                 |              |
|                                   |        |      |      | QC 8 - 57                 |              |
|                                   |        |      |      | QC 8 - 76                 |              |
|                                   |        |      |      | QC 8 - 61                 |              |
| 150 Handfinish - 1-1 Chemical-B4B | 12 pcs | 0.00 | 0.35 | Handfinish - 1 - 1 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 2 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 3 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 4 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 5 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 6 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 7 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 8 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 9 - B4B  |              |
|                                   |        |      |      | Handfinish - 1 - 10 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 11 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 12 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 13 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 14 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 15 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 16 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 17 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 18 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 19 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 20 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 21 - B4B |              |
|                                   |        |      |      | Handfinish - 1 - 22 - B4B | J 2020/09/21 |
| 151 QC 7                          | 12 pcs | 0.00 | 0.00 | QC 7 - 10                 |              |
|                                   |        |      |      | QC 7 - 13                 |              |
|                                   |        |      |      | QC 7 - 14                 |              |
|                                   |        |      |      | QC 7 - 15                 |              |
|                                   |        |      |      | QC 7 - 17                 |              |
|                                   |        |      |      | QC 7 - 18                 |              |
|                                   |        |      |      | QC 7 - 19                 |              |
|                                   |        |      |      | QC 7 - 2                  |              |
|                                   |        |      |      | QC 7 - 28                 |              |
|                                   |        |      |      | QC 7 - 3                  |              |
|                                   |        |      |      | QC 7 - 30                 |              |
|                                   |        |      |      |                           |              |

2.3 9-89

DAS 24 9-89

DAS 15 9-89

|                                        |           |  |           |                       |          |
|----------------------------------------|-----------|--|-----------|-----------------------|----------|
|                                        |           |  |           | QC 7 - 34             | 20-09-22 |
|                                        |           |  |           | QC 7 - 36             |          |
|                                        |           |  |           | QC 7 - 37             |          |
|                                        |           |  |           | QC 7 - 41             |          |
|                                        |           |  |           | QC 7 - 47             |          |
|                                        |           |  |           | QC 7 - 48             |          |
|                                        |           |  |           | QC 7 - 51             |          |
|                                        |           |  |           | QC 7 - 58             |          |
|                                        |           |  |           | QC 7 - 59             |          |
|                                        |           |  |           | QC 7 - 60             |          |
|                                        |           |  |           | QC 7 - 9              |          |
|                                        |           |  |           | QC 7 - 68             |          |
|                                        |           |  |           | QC 7 - 50             |          |
|                                        |           |  |           | QC 7 - 67             |          |
|                                        |           |  |           | QC 7 - 40             |          |
|                                        |           |  |           | QC 7 - 24             |          |
|                                        |           |  |           | QC 7 - 43             |          |
|                                        |           |  |           | QC 7 - 61             |          |
|                                        |           |  |           | QC 7 - 81             |          |
|                                        |           |  |           | QC 7 - 76             |          |
|                                        |           |  |           | QC 7 - 79             |          |
|                                        |           |  |           | QC 7 - 83             |          |
|                                        |           |  |           | QC 7 - 82             |          |
|                                        |           |  | 0.00 0.42 | Powdercoat - 1 - B4B  |          |
|                                        |           |  |           | Powdercoat - 2 - B4B  |          |
|                                        |           |  |           | Powdercoat - 3 - B4B  | 20-09-22 |
|                                        |           |  |           | Powdercoat - 4 - B4B  |          |
| 160 Powdercoat - 1 White GI(A)-<br>B4B | 12<br>pcs |  | 0.00 0.00 | QC 3 - 10             |          |
| 170 QC 3                               | 12<br>pcs |  | 0.00 0.00 | QC 3 - 13             | 20-9-22  |
|                                        |           |  |           | QC 3 - 15             |          |
|                                        |           |  |           | QC 3 - 17             |          |
|                                        |           |  |           | QC 3 - 18             |          |
|                                        |           |  |           | QC 3 - 2              |          |
|                                        |           |  |           | QC 3 - 28             |          |
|                                        |           |  |           | QC 3 - 3              |          |
|                                        |           |  |           | QC 3 - 30             |          |
|                                        |           |  |           | QC 3 - 34             |          |
|                                        |           |  |           | QC 3 - 36             |          |
|                                        |           |  |           | QC 3 - 41             |          |
|                                        |           |  |           | QC 3 - 51             |          |
|                                        |           |  |           | QC 3 - 58             |          |
|                                        |           |  |           | QC 3 - 59             |          |
|                                        |           |  |           | QC 3 - 68             |          |
|                                        |           |  |           | QC 3 - 9              |          |
|                                        |           |  |           | QC 3 - 40             |          |
|                                        |           |  |           | QC 3 - 19             |          |
|                                        |           |  |           | QC 3 - 43             |          |
|                                        |           |  |           | QC 3 - 24             |          |
|                                        |           |  |           | QC 3 - 61             |          |
|                                        |           |  |           | QC 3 - 81             |          |
|                                        |           |  |           | QC 3 - 82             |          |
| 200 Packaging 3-1 - Stock - B4B        | 12<br>pcs |  | 0.00 0.00 | Packaging 3 - 1 - B4B |          |
|                                        |           |  |           | Packaging 3 - 2 - B4B |          |
|                                        |           |  |           | Packaging 3 - 3 - B4B |          |
|                                        |           |  |           | Packaging 3 - 4 - B4B |          |
|                                        |           |  |           | Packaging 3 - 5 - B4B |          |
|                                        |           |  |           | Packaging 3 - 6 - B4B |          |
|                                        |           |  |           | Packaging 3 - 7 - B4B |          |
|                                        |           |  |           | Packaging 3 - 8 - B4B |          |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 9 - B4B  |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 10 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 11 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 12 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 13 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 14 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 15 - B4B | FP-001            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 16 - B4B | ML 20-9-2         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 17 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 18 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 19 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 20 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 21 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 22 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 23 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 24 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 25 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 26 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 27 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 28 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 29 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 30 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 31 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 32 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 33 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 34 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 35 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 36 - B4B |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | Packaging 3 - 37 - B4B |                   |
| 210 QC 21 - SA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12<br>pcs              | 0.00 0.00       | QC 21 - SA - 21        | DAS<br>21<br>9-00 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | QC 21 - SA - 70        | SEP 27 2020       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                 | QC 21 - SA - 53        |                   |
| <p>Part Op 100 - Doosan (Doosan Lathe) 1-Turn as per Dwg DSK 101 &amp; Folio FC492</p> <p>Descriptions: 110 - QC2 Machining-2 (QC2- Inspect parts off machine FAI/FAIB)</p> <p>120 - HAAS1-3 (HAAS CNC Vertical Machine) 1-Machine as per Folio FA627 &amp; Dwg D3488</p> <p>130 - QC2 Machining-2 (QC2- Inspect parts off machine FAI/FAIB)</p> <p>140 - QC8 Machining-2 (QC8- Inspect parts - second check)</p> <p>150 - HandFinish1 (Chemical Conversion Coat per QSI005 4.1)</p> <p>151 - (QC7-Inspect Chemical Conversion Coat)</p> <p>160 - Powdercoat1 (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum) START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____</p> <p>170 - QC3 (QC3- Inspect Part Finish)</p> <p>200 - Packaging3-1 (Identify as per dwg &amp; Stock Location: _____ LOCATION : FP001)</p> <p>210 - QC21 (QC21- Final Inspection - Work Order Release)</p> |                        |                 |                        |                   |
| <b>Job BOM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                 |                        |                   |
| <b>Part / Item</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Component Name</b>  | <b>Quantity</b> | <b>Operation</b>       | <b>Container</b>  |
| D6103-003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Round Billet, Aluminum | 12 pcs (1 ea)   | 100-Doosan - 1         | S212388           |
| <b>Job Allocations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |                 |                        |                   |
| <b>Operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Component Part</b>  | <b>Required</b> | <b>Inventory</b>       | <b>Allocated</b>  |
| 100-Doosan - 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | D6103-003              | 12              | 12                     | 0                 |
| <b>Part Specifications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |                 |                        |                   |
| Specifications could not be found.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                 |                        |                   |



|                                                                    |  |                             |
|--------------------------------------------------------------------|--|-----------------------------|
| <b>DART AEROSPACE LTD</b>                                          |  | <b>Work Order:</b> 207839   |
| <b>Description:</b> Blade Fitting, RH / Turning Detail for D3488-4 |  | <b>Part Number:</b> D3488-4 |
| <b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> C / D            |  | <b>Page 2 of 2</b>          |

### INSPECTION SHEET

| Drawing Dimension      | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|------------------------|---------------|------------------|--------|--------|----------------------|----------|
| <b>Milling Section</b> |               |                  |        |        |                      |          |
| Ø0.508                 | +0.006/-0.001 | 0.507            | ✓      |        | Precision PN         |          |
| 0.750                  | +/-0.010      | 0.748            | ✓      |        | Heads 1              |          |
| 1.500                  | +/-0.010      | 1.500            | ✓      |        | Heads 1              |          |
| 11.18                  | +/-0.030      | 11.168           | ✓      |        | H gauge              |          |
| R0.062                 | +/-0.010      | 0.062            | ✓      |        | R gauge              |          |
| 0.125                  | +/-0.010      | 0.115            | ✓      |        | vernier              |          |
| 0.590                  | +/-0.010      | 0.599            | ✓      |        | "                    |          |
| 0.793                  | +/-0.010      | 0.793            | ✓      |        | "                    |          |
| 1.351                  | +/-0.010      | 1.358            | ✓      |        | Heigh gauge          |          |
| 1.317                  | +/-0.010      | 1.317            | ✓      |        | vernier              |          |
| 1.802                  | +/-0.010      | 1.801            | ✓      |        | H gauge              |          |
|                        |               |                  |        |        |                      |          |
|                        |               |                  |        |        |                      |          |

|                         |                         |                      |
|-------------------------|-------------------------|----------------------|
| <b>Measured by:</b> JBD | <b>Checked by:</b> B.C. | <b>QC Inspector:</b> |
| <b>Date:</b> 20/3/22    | <b>Date:</b> 20-09-15   | <b>Date:</b>         |

|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| A   | 19.06.14 | New Issue | MG         |          |

Entered: 11/10/19 Date: 10/3/19

DEC 14 2020



**DART**  
AEROSPACE

## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. 20-8469

Route update only

|                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                                                           |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Job: <u>107839</u>                                                                                                                                                                                                                                                                                                                                                         |  | DISPOSITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | DEPARTMENT/PROCESS                                                                                                        |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
| Part No. <u>D3488-4</u>                                                                                                                                                                                                                                                                                                                                                    |  | Rework <input type="checkbox"/><br>Scrap <input checked="" type="checkbox"/><br>Use-as-is <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Skid-tube <input type="checkbox"/><br>Machining <input checked="" type="checkbox"/><br>Large Fab <input type="checkbox"/> | Cross tube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/> | Eng. (Non-AW) <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/> | Engineering <input type="checkbox"/><br>Water Jet <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Quality <input type="checkbox"/> |
| Date: <u>20/3/9</u>                                                                                                                                                                                                                                                                                                                                                        |  | Sequence #: <u>100</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | QTY Affected: <u>1</u>                                                                                                    |                                                                                                                 | MRB (QSI042)<br><b>DAS 51</b><br>9-89 <u>20/03/09</u>                                                                                |                                                                                                                                                     |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Disposition                                                                                                               |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
| Operator did <del>changes</del> changes into G54 "C" axys origine then restarted program without calling G54 again. This made the machine use the same G54 data as before the changes.                                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Operator error, scrap and destroy<br>SAP<br>20.03.09<br><b>DAS 51</b><br>9-89                                             |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Completed By<br><u>VH8</u> 20/3/9                                                                                         |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Lead hand / Supervisor<br><u>A</u> 20-03-09                                                                               |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | QC / QA Coordinator<br><b>DAS 55</b><br>MAR 9-9-2020                                                                      |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                 |  | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                           |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
| Operator <input checked="" type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Presservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |  | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/><br>Mislabeled <input type="checkbox"/><br>Contamination <input type="checkbox"/><br><input checked="" type="checkbox"/> Misaligned/off center<br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Incomplete/Unclear Instructions <input type="checkbox"/><br>Drill Holes <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain Direction <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set/Set-up <input type="checkbox"/><br>Positioned Wrong <input type="checkbox"/><br>Outside Tolerance <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Misread <input type="checkbox"/> |  |                                                                                                                           |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                            |  | Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                           |                                                                                                                 |                                                                                                                                      |                                                                                                                                                     |



Entered:

28

Date:

DEC 14 2020



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

20-8770

Route update only

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|----------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|------------------------------------------------|----------------------------------------|-------------------------------------------------------|-----------------------------------|------------------------------------|------------------------------------------|----------------------------------|---------------------------------|-----------------------------------------------|-------------------------------|---------------------------------|-------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|----------------------------------|-------------------------------------|---------------------------------------|-----------------------------------------|--|
| Job: <u>207839</u><br>Part No. <u>D3488-4</u>                                                                                                                                                                                                                                                                                                                                                  |                                                          | <b>DISPOSITION</b><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                       | <b>DEPARTMENT/PROCESS</b><br>Skid-tube <input type="checkbox"/> Cross tube <input type="checkbox"/> Eng. (Non-AW) <input type="checkbox"/> Engineering <input type="checkbox"/><br>Machining <input checked="" type="checkbox"/> Small Fab <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Water Jet <input type="checkbox"/><br>Large Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier Quality <input type="checkbox"/> |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Date: <u>20-03-13</u>                                                                                                                                                                                                                                                                                                                                                                          |                                                          | Sequence #: <u>100</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                       | QTY Affected: <u>1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | MRB (QSI042)<br><u>12</u> <u>4/20/13</u>                                                                              |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Completed By                                                                                                          |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Dim 2.620 is 0.005 under tolerance at mid section of <del>the</del> part.                                                                                                                                                                                                                                                                                                                      |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       | Location not critical in stress. Acceptable                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | <u>4/24/13</u><br>Lead hand / Supervisor<br><u>B.A. 20-09-16</u><br>QC / QA Coordinator<br><u>D</u><br><u>20-9-22</u> |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <b>Root Cause</b><br>Operator <input checked="" type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Preservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |                                                          | <b>FAULT CATEGORY</b><br><table border="0"> <tr> <td><input type="checkbox"/> Pressure/Forced</td> <td><input type="checkbox"/> Contamination</td> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Positioned Wrong</td> </tr> <tr> <td><input type="checkbox"/> Bending</td> <td><input type="checkbox"/> Misaligned/off center</td> <td><input type="checkbox"/> Folio/Program</td> <td><input checked="" type="checkbox"/> Outside Tolerance</td> </tr> <tr> <td><input type="checkbox"/> Crushing</td> <td><input type="checkbox"/> BOM/Route</td> <td><input type="checkbox"/> Grain Direction</td> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Cracks</td> <td><input type="checkbox"/> Broken/Damage/Defect</td> <td><input type="checkbox"/> Weld</td> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td> <td><input type="checkbox"/> Incomplete/Unclear Instructions</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Marks/Chatter</td> <td><input type="checkbox"/> Drill Holes</td> <td><input type="checkbox"/> Out of Sequence</td> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Mislabeled</td> <td><input type="checkbox"/> Fit/Function</td> <td><input type="checkbox"/> Off-set/Set-up</td> <td></td> </tr> </table> |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  | <input type="checkbox"/> Pressure/Forced | <input type="checkbox"/> Contamination | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input checked="" type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Off-set/Set-up |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Contamination                   | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Positioned Wrong             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Misaligned/off center           | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> Outside Tolerance |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> BOM/Route                       | <input type="checkbox"/> Grain Direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Drawing                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Broken/Damage/Defect            | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Finish                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Part Lost/Missing            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Drill Holes                     | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Misread                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Fit/Function                    | <input type="checkbox"/> Off-set/Set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                 |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                       |  |                                          |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |

Entered: 2h Date: DEC 14 2020



# WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. 20-8771

Route update only ☐

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| Job: <u>207839</u><br>Part No. <u>D3488-4</u>                                                                                                                                                                                                                                                                                                                                                  |                                                          | <b>DISPOSITION</b><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                       | <b>DEPARTMENT/PROCESS</b><br>Skid-tube <input type="checkbox"/> Cross tube <input type="checkbox"/><br>Machining <input checked="" type="checkbox"/> Small Fab <input type="checkbox"/><br>Large Fab <input type="checkbox"/> Finishing <input type="checkbox"/> |  |                                                                     |  | Eng. (Non-AW) <input type="checkbox"/> Engineering <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/> Water Jet <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/> Supplier Quality <input type="checkbox"/> |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Date: <u>20-09-15</u>                                                                                                                                                                                                                                                                                                                                                                          |                                                          | Sequence #: <u>120</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                       | QTY Affected: <u>6 parts</u>                                                                                                                                                                                                                                     |  | MRB (QSI042) <u>51</u><br>INSP <u>12</u> <u>9-89</u> <u>20/9/16</u> |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       | Disposition                                                                                                                                                                                                                                                      |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| 0.125" dimension on detail (J) goes from 0.110" (on 2 parts) and 0.112" (on 4 parts)                                                                                                                                                                                                                                                                                                           |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       | Acceptable: Lip doesn't see high stress                                                                                                                                                                                                                          |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  | Completed By                                                                                                                                                                                                                                           |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  | Lead hand / Supervisor                                                                                                                                                                                                                                 |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| QC / QA Coordinator                                                                                                                                                                                                                                                                                                                                                                            |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       | <u>B.A 20-09-15</u><br><br><u>PD 20-9-22</u>                                                                                                                                                                                                                     |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <b>Root Cause</b><br>Operator <input checked="" type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Preservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |                                                          | <b>FAULT CATEGORY</b><br><table border="0"> <tr> <td><input type="checkbox"/> Pressure/Forced</td> <td><input type="checkbox"/> Contamination</td> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Positioned Wrong</td> </tr> <tr> <td><input type="checkbox"/> Bending</td> <td><input type="checkbox"/> Misaligned/off center</td> <td><input type="checkbox"/> Folio/Program</td> <td><input checked="" type="checkbox"/> Outside Tolerance</td> </tr> <tr> <td><input type="checkbox"/> Crushing</td> <td><input type="checkbox"/> BOM/Route</td> <td><input type="checkbox"/> Grain Direction</td> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Cracks</td> <td><input type="checkbox"/> Broken/Damage/Defect</td> <td><input type="checkbox"/> Weld</td> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td> <td><input type="checkbox"/> Incomplete/Unclear Instructions</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Marks/Chatter</td> <td><input type="checkbox"/> Drill Holes</td> <td><input type="checkbox"/> Out of Sequence</td> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Mislabeled</td> <td><input type="checkbox"/> Fit/Function</td> <td><input type="checkbox"/> Off-set/Set-up</td> <td></td> </tr> </table> |                                                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  | <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                               | <input type="checkbox"/> Contamination | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input checked="" type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Off-set/Set-up |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Contamination                   | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Positioned Wrong             |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Misaligned/off center           | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> Outside Tolerance |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> BOM/Route                       | <input type="checkbox"/> Grain Direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Drawing                      |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Broken/Damage/Defect            | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Finish                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Part Lost/Missing            |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Drill Holes                     | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Misread                      |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Fit/Function                    | <input type="checkbox"/> Off-set/Set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                 |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                       |                                                                                                                                                                                                                                                                  |  |                                                                     |  |                                                                                                                                                                                                                                                        |                                        |                                           |                                           |                                  |                                                |                                        |                                                       |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                         |  |